

(54) **MONOLITHIC POLYMER COMPOSITION  
HAVING A RELEASING MATERIAL**

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(58) **Field of Search** ..... 264/349; 521/905;  
524/503, 387; 523/102, 122, 132

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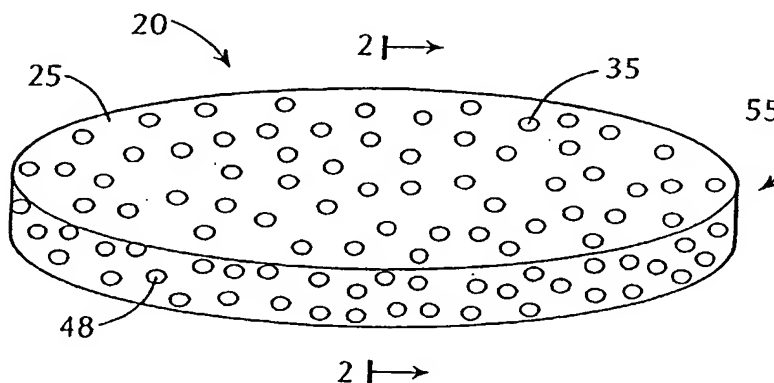
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(57) **ABSTRACT**

The present invention includes processes and resulting structures for producing a modified polymer having interconnecting channels. The interconnecting channels act as controlled transmission passages through the polymer. A hydrophilic agent is blended into the polymer so that it is distributed within the polymer. In one embodiment, a releasing material is blended into the polymer so that the releasing material is distributed within the product. The product is solidified so that the hydrophilic agent forms passages in the product through which a desired composition is communicable to the releasing material that is entrained within the product. The solidified product may be used to form a desired shaped article such as plug type inserts and liners for closed containers, or it may be formed into a film, sheet, bead or pellet.

36 Claims, 28 Drawing Sheets





#### ABSTRACT

The present invention includes processes and resulting structures for producing a modified polymer having interconnecting channels. The interconnecting channels act as controlled transmission passages through the polymer. A hydrophilic agent is blended into the polymer so that it is distributed within the polymer. In one embodiment, a releasing material is blended into the polymer so that the releasing material is distributed within the product. The product is solidified so that the hydrophilic agent forms passages in the product through which a desired composition is communicable to the releasing material that is entrained within the product. The solidified product may be used to form a desired shaped article such as plug type inserts and liners for closed containers, or it may be formed into a film, sheet, bead or pellet.